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TWELFTH

ANNUAL REPORT

OF THE

SCHOOL MEDICAL OFFICER

TO

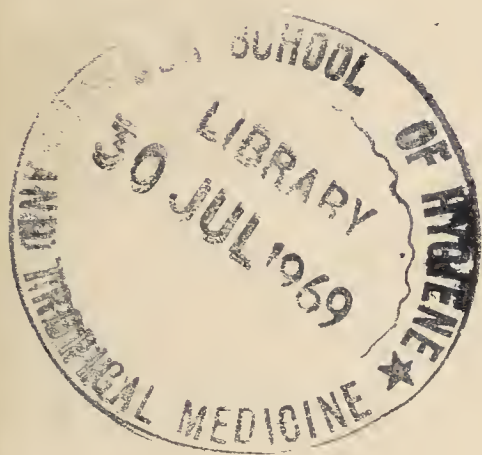
The Education Committee


OF THE

SALOP COUNTY COUNCIL.

1919.

JAMES WHEATLEY, M.D., D.P.H.





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Medical Staff.

School Medical Officer:

JAMES WHEATLEY, M.D., D.P.H.

Temporary Medical Inspectors:

FLORA MACDONALD MACDONALD, M.B., Ch.B.

JANE BOYES, L.R.C.P., L.R.C.S. (Part-time).

(Resigned 29th May, 1919.)

Assistant School Medical Officers:

DONALD WAINWRIGHT, M.R.C.S., L.R.C.P., D.P.H.

ELFRIDA H. B. COGHILL, L.R.C.S., L.R.C.P.

AGNES H. NICOLL, M.A., M.B., Ch.B., D.P.H.

KATHLEEN PRIESTLEY, L.S.A.

School Dentists:

JOHN ISHERWOOD SHORROCK, L.D.S.

STEPHAN KEENAN, L.D.S.

To the Chairman and Members of the Salop Education Committee.

LADIES AND GENTLEMEN,

I beg to present my twelfth Annual Report as Medical Officer to the Salop Local Education Authority.

The year has been one of transition from the limited inspection and limited services of the war years to a more complete scheme.

The adoption of a proper scheme of inspection has not been without difficulties owing to the scarcity of doctors and nurses and the very great scarcity of housing accommodation for the staff. The principle adopted in the new scheme is that there shall be continuous supervision of the child from birth to the end of school age.

The Education Act of 1918 has put further duties upon the Medical Inspection Committee and its staff of which the most important are the inspection of secondary school children and the provision of facilities for the treatment of elementary school children.

A comprehensive scheme for the treatment of school children has to be submitted to the Board of Education.

Perhaps the most important new work during the year has been the inauguration of a scheme of dental treatment which it is hoped will become a nucleus for a public dental service.

Owing to the great difficulties attending any building operations, the improvement of existing school buildings and the provision of new schools has fallen greatly behind. It is consequently all the more important that the buildings, so far as their present structure allows, should be kept in a high state of sanitary efficiency.

In addition to the matters above referred to, the one outstanding matter is the provision of a good scheme of physical instruction and training. It is hardly possible to over-estimate the value of such a scheme thoroughly carried out.

I am, Ladies and Gentlemen,
Your obedient Servant,

JAMES WHEATLEY,
County Medical Officer of Health,
and School Medical Officer.

*County Buildings,
Shrewsbury.
May, 1920.*

AREA COVERED BY THE SALOP LOCAL EDUCATION AUTHORITY, NUMBER OF SCHOOLS, DEPARTMENTS, AND CHILDREN ON REGISTER.

The area covered by the Salop Education Authority comprises 858,277 acres, and had a population at the 1911 census of 216,918. It is co-terminous with the Administrative County with the exception that the Borough of Shrewsbury is not included. The number of Schools is 292, comprising 353 departments. The number of children on the registers necessarily varies from time to time to some extent. On December 31st, 1919, it was 32,049.

HYGIENIC CONDITION OF SCHOOLS.

The following remarks made in the report for 1918 are still in the main applicable.

“ Structural alterations for the improvement of health conditions have been limited mostly to matters urgently required.

“ There are many improvements that should be effected as soon as a suitable opportunity arises. After ten years medical inspection there are still a large number of schools in which the ventilation, heating, and lighting, and the lavatory, cloakroom and sanitary accommodation are quite unsatisfactory. The methods hitherto adopted for bringing about the necessary improvements have not proved efficient.

“ The practical limitations to capital expenditure still existing make it all the more necessary that every effort should be made by managers, teachers, and school cleaners to maintain the schools in as sanitary a condition as possible. It is particularly important that the floors and walls of the schools should be washed more frequently than usual.”

Notwithstanding these adverse circumstances a systematic attempt should now be made to improve the health conditions of the schools. No doubt labour difficulties will prevent structural defects being dealt with in a wholesale manner and it will be necessary to make a careful selection and deal with the worst conditions in the first instance.

In the meantime too much stress cannot be laid upon the maintenance of the premises in a clean condition and the utilisation of the present means of ventilation, warming, and lighting of the rooms to the best advantage.

A short statement to teachers on the theory underlying open air treatment and the best means of approaching open-air conditions in a school room would probably be most useful.

In considering the sanitary condition of schools it cannot be too much borne in mind, that it is the condition of the schoolroom itself that is the principal factor in determining the healthiness of the school.

ARRANGEMENTS MADE FOR MEDICAL INSPECTION.

For the first two school terms the arrangements were those described in last year's report. Only the ailing children presented by the teachers and nurses and those found defective on previous inspections were examined.

In the third term full systematic inspection at the three code ages was established. Six medical officers were appointed to carry out the whole of the Child Welfare and School Inspection work. Owing to the impossibility of finding housing accommodation only five of the six took up their duties in the County.

Since September the whole of the work of inspection including that in the Borough of Wenlock has been carried out by the whole-time Inspectors.

SCHOOL NURSES.—Seventy-nine part-time nurses have been employed in connection with 222 school departments; 70 of these nurses are working for Associations connected with the Shropshire Nursing Federation, 3 are nurses employed by other Associations or by private persons, 2 are working on their own account, and 4 are employed by the Lady Forester Trust in the Borough of Wenlock.

Two whole time school nurses have been appointed to deal, so far as possible, with some of the schools not hitherto provided with nurses. These nurses besides attending at the two school clinics have done the school nursing at 53 school departments with 6,306 children on the registers.

The number of children in schools provided with nurses is now 24,366.

The scheme that is to be brought into force as soon as nurses can be obtained will give the equivalent of an additional two whole time nurses. Where it is desirable, the work of health visitor, school nurse and tuberculosis visitor will be combined in the same person.

The scheme on the whole has worked well, but in some instances the school work has suffered materially owing to the pressure of the nurses' ordinary work of district nursing.

VOLUNTARY HELPERS.—(see remarks, page 8, report for 1914).

During the war the scheme for utilising Voluntary Helpers became much less efficient, owing greatly to the fact that the helpers were fully employed with other work. Much of the routine work undertaken by the helpers is now done by the school nurses, but there is still work to be done in which helpers can be most useful. What is now wanted is one lady for a school or group of schools to whom the nurse can apply for advice or assistance. It is the intention to modify the scheme on these lines.

TEACHERS, ATTENDANCE OFFICERS AND SCHOOL ATTENDANCE.—(see page 9, report for 1914).

The teachers have continued to afford great help in the work of medical inspection, and in the early part of the year when the inspection was very incomplete, their help was particularly valuable.

In the new scheme of dental inspection and treatment they have given enthusiastic assistance in impressing upon parents the great importance of dental treatment.

EXTENT AND SCOPE OF THE MEDICAL INSPECTION CARRIED OUT IN THE YEAR 1919.

One hundred and ninety-seven schools were visited before August under the scheme for the inspection of ailing children.

Since the commencement of routine medical inspection, 191 departments out of a total of 353 have been inspected.

TABLE I.—NUMBER OF CHILDREN INSPECTED 1st JANUARY, 1919, TO 31st DECEMBER, 1919.

					A—" CODE " GROUPS.					
					Entrants.					
Age.					3	4	5	6	Other Ages.	Total.
Boys	..	..	..	..	10	30	649	83	18	790
Girls	..	..	..	..	5	28	637	62	17	749
Totals	..	..	..	..	15	58	1286	145	35	1539

					Intermediate Group	Leavers.			Other Ages.	Total.	Grand Total of all code groups.
Age					8	12	13	14			
Boys	..	..	..	..	823	113	523	3	26	665	2278
Girls	..	..	..	..	788	82	555	7	21	665	2202
Totals	..	..	..	..	1611	195	1078	10	47	1330	4480

B—GROUPS OTHER THAN "CODES."

				Specials.	Re-examinations.
Boys	..	..	..	1439	3102
Girls	..	..	..	1553	3242
Totals	..			2992	6344

The total number of children examined was 13,816, as compared with 8,972 in 1918, or an increase of 54 per cent.

TABLE II.—RETURN OF DEFECTS FOUND IN THE COURSE OF MEDICAL INSPECTION, 1919.

Defect or Disease. (1)	Code Groups.		Specials and Re-examinations.	
	Number referred for Treatment. (2)	Number requiring to be kept under observation, but not referred for Treatment. (3)	Number referred for Treatment. (4)	Number requiring to be kept under observation, but not referred for Treatment. (5)
	Total.	Total.	Total.	Total.
Malnutrition .. ..	..	59	2	158
Uncleanliness: Head	14	4	80	10
Body	6	5	18	11
Ringworm : Head	10	..	58	4
Body	5	..	17	..
Scabies	5	1	13	2
Impetigo	7	..	40	4
Other Disease	14	6	29	34
Defective Vision and Squint ..	319	124	946	322
External Eye Disease ..	24	32	53	45
Defective Hearing	12	9	29	33
Ear Disease	28	3	57	21
Dental Disease	419	14	403	17
Enlarged Tonsils	132	304	309	516
Adenoids	36	75	151	295
Enlarged Tonsils and Adenoids	102	127	216	224
Defective Speech .. ..	..	21	3	71
Heart Disease : Organic ..	4	19	12	46
Functional	2	47	3	100
Anaemia	9	84	42	210
Pulmonary } Definite	4	2	12	1
Tuberculosis } Suspected	22	72	62	100
Chronic Bronchitis	14	39	11	58
Other Disease	3	2	1	3
Epilepsy	2	2	13	14
Chorea	2	..	2	2
Other Disease	3	9	9	64
Non-Pulmonary Tuberculosis :				
Glands	10	2	18	14
Bones & Joints	1	1	2	1
Other Forms	7	2	10	1
Rickets .. ..	..	2	3	7
Deformities	17	15	69	27
Other Defects or Diseases ..	67	92	102	308

EYE DEFECTS.—These include defective vision, squint and external eye defects. The defects of vision and squint are grouped together. There were 1,265 children with these defects requiring treatment and 446 with slighter defects who needed to be kept under observation.

Three hundred and nineteen children were found with defective vision or squint amongst the code groups, and except for the cases of squint almost the whole of these were amongst the intermediates and leavers. The percentage of children amongst these groups requiring treatment for eyesight was close on 10%.

The pre-war percentages at the age of 12 were :—

Year	..	..	..	1908	1909	1910	1911	1912	1913	1914
Percentage of defects	..	..	..	15.5	14.7	13.3	11.8	14.5	18.2	19.4

The lower percentage for 1919 may be partly explained by the inclusion of the 8 year old children.

DEFECTS OF NOSE AND THROAT.—There were 946 children with defects of the throat and nose requiring treatment amongst those examined, and 1,541 children suffering from minor conditions and needing to be kept under observation. Of those requiring treatment 441 were suffering from enlarged tonsils, 187 from adenoids and 318 from both enlarged tonsils and adenoids.

Of the 4,480 children of the Code groups examined 270 or 6% required medical treatment.

Considerable attention has of recent years been given to the question of the cause of these throat conditions, but it cannot be said, that, so far, any very positive knowledge has been gained. A better understanding of their cause and prevention is recognised as one of the most important matters concerning the health of school children.

Whilst there is no absolute knowledge as to how these conditions arise, there is ample justification for proceeding energetically on the following lines.

- 1.—Diminution of school infection, by improved ventilation and cleanliness of school rooms, and separation of scholars. Open air conditions not only diminish the amount of infective material breathed but improve the tone and resistance of the mucous membranes.
- 2.—Removal of septic mouth conditions—particularly septic teeth.
- 3.—Teaching correct methods of breathing.
- 4.—Training young children in proper mastication of food, so as to develop the jaws and air passages.

The degree of symptoms necessitating operation is a subject on which there is still considerable difference of opinion, and the proper selection of cases for operation is a matter requiring great care and judgment. More careful observations carried on into adult life of the cases operated on and those left without operation are most desirable and necessary. In the meantime probably the safest rule is to confine operations to cases in which there is distinct evidence of obstruction to breathing or of infection of the system.

TEETH.—The result of the examination and treatment of the children's teeth under the dental scheme is given below.

If this scheme can only be developed so as to bring the benefit of conservative dental treatment within the reach of the masses of the people, it will, in my opinion, have more effect upon the public health than any other public provision for treatment hitherto made.

This matter although of such supreme importance is not sufficiently appreciated and consequently it appears desirable to state again the remarks made in the last year's report :—

A Departmental Committee appointed to inquire into "The Extent and Gravity of the Evils of Dental Practice by Persons not Qualified under the Dentists Act" has come to the following conclusion :—

"In conclusion, we wish to state very strongly that, in our opinion, the State cannot afford to allow the health of the workers of the nation to be continuously undermined by dental neglect. Steps should be taken without delay to recognise dentistry as one of the chief, if not the chief, means of preventing ill-health, and every possible means should be employed for enlightening the public as to the need for conservative treatment of diseased teeth. The dental profession should be regarded as one of the outposts of preventive medicine, and as such encouraged and assisted by the State. Treatment should be rendered available for all needing it."

There are two ways in which this problem should be attacked—

- (1) By more physiological methods of living. This is the true prevention.
- (2) By conservative dental treatment. This aims at detection of disease in its earliest stages and preventing spread.

The two methods should be worked side by side. Prevention by physiological methods has been one of our chief objects for the last ten years, and now with greatly increased facilities our efforts should be re-doubled.

In the report for 1917, I said :—

"The work of the prevention of dental caries is being steadily pushed forward by teaching in the schools, and in the homes by health visitors. I am coming to the conclusion that of all the rules for the prevention of caries of the teeth, the most important is—'do not drink at meal times.' If this rule is observed, food must be thoroughly masticated, and a good flow of saliva will be obtained. The food will be well mixed with saliva and will be in a condition not liable to stick to the teeth. Moreover, with a free flow of saliva, and with thorough working of the jaws, saliva will be forced between each tooth and into the crevices. The universal teaching of this simple rule would, I am convinced, do a very great deal towards the prevention of dental caries."

For a description of the measures taken for the prevention of dental caries, and for the rules to be observed, reference must be made to pages 31 and 32 of the Annual Report for 1914.

The scheme for the examination and treatment of school children was brought into operation in the middle of September.

It consists of the employment of two whole time dentists and four dental dressers working under their direct supervision. The dressers did not commence their work until October.

The dressers are engaged for a probationary period of six months, at the end of which time if suitable they undertake to serve for a further period of three years. Their training is undertaken by the dentists on definite lines laid down and they work entirely under the direct supervision of the dentists.

The dental equipment has as yet only been partially provided. So far two complete portable outfits have been obtained and one permanent clinic furnished. A motor car has been bought primarily for the purpose of inspection and treatment at the out of the way country schools, but it has also been of great use in conveying dental apparatus to improvised clinics. One dentist has been stationed at Wellington and has dealt principally with the schools on the eastern side of the County. The other has been stationed in Shrewsbury.

The work during 1919 was principally that of inspection. The treatment would have begun earlier if it had not been for the difficulty of obtaining and furnishing clinics.

It is the intention eventually to deal with about 69% of the children at the dental clinics to be established in the small towns of the County, and the remainder of the children at the schools.

The children selected for inspection were those of 6, 7 and 8 years of age, and the treatment consisted principally of stopping the saveable permanent teeth, extracting teeth where necessary to remove septic conditions and applying dressings where no more radical treatment could be carried out.

With the limited services available the desirability of concentrating almost entirely upon saving the permanent teeth until this branch of the work has been got in hand has been discussed but not yet acted upon. It is probably the way to get the greatest permanent good from the work of the dentists.

Considerable trouble has been taken to get the parents' consent to treatment and the result has been quite successful.

The dentists have explained to the parents when they have attended the inspections the advantage of treatment and the teachers have also done much good work in the education of the parents. Where the parents have refused treatment in the first instance, the school nurse has visited and tried further persuasion. As a result of these efforts, consent for treatment has been obtained in 76% of the cases, and in many schools all the parents have given consent.

RESULTS OF INSPECTION.

Age	No. of Children examined.				TEMPORARY TEETH.											
					Sound.				Saveable.				Unsaveable.			
	6	7	8	Other	6	7	8	Other	6	7	8	Other	6	7	8	Other
East of County (Mr Shorrocks)	902	1015	991	101	11033	9813	7049	473	1501	1690	1634	112	1149	1852	2234	190
Remainder of County (Mr. Keenan)	454	631	733	49	7385	8893	7318	436	419	624	835	47	416	892	1233	65
	1356	1646	1724	150	18418	18706	14367	909	1920	2314	2469	159	1565	2744	3467	255

Age	PERMANENT TEETH.												No ofChildren referred for Treatment.
	Sound.				Saveable.				Unsaveable.				
	6	7	8	Other	6	7	8	Other.	6	7	8	Other	
East of County	2999	6540	9838	1352	31	101	158	60	..	2	4	15	2194
Remainder of County	1689	4556	6955	376	15	53	90	12	..	1	22	2	1374
	4688	11096	16793	1728	46	154	248	72	..	3	26	17	3568

9
RESULTS OF TREATMENT.

	No. of Children	No. of Permanent Teeth.		No. of Temporary Teeth.		Total Number of Fillings.	No. of Administrations of General Anæsthetics.	No. of other Operations.	
		Extracted	Filled	Extr.	Filled.			Perm. Teeth.	Temp. Teeth.
East of County (Mr. Shorrock) ..	72	..	..	11	83	83	..	..	109
Remainder of County (Mr. Keenan) ..	532	21	49	1102	340	389	..	12	238
	604	21	49	1113	423	472	..	12	347

The routine inspections of the Medical Inspectors give the following results :—

District.			Age 5.					Age 8.					Age 13.				
			No. of Children.	Decayed Teeth.		Children free from Caries.		No. of Children.	Decayed Teeth.		Children free from Caries.		No. of Children.	Decayed Teeth.		Children free from Caries.	
				Number.	Average per Child.	Number.	Percentage.		Number.	Average per Child.	Number.	Percentage.		Number.	Average per Child.	Number.	Percentage.
Dr. Coghill			279	672	2.4	106	38	315	1063	3.4	31	10	153	364	2.4	36	24
Dr. Macdonald			291	625	2.1	112	38	439	1775	4.0	33	8	282	728	2.6	48	17
Dr. Nicoll			256	481	1.9	105	41	332	993	3.0	50	15	280	553	2.0	69	25
Dr. Priestley			273	544	2.0	133	49	280	1091	3.9	34	12	173	317	1.9	59	34
Dr. Wainwright			183	429	2.3	85	46	354	1318	3.7	54	15	143	254	1.8	58	41
			1282	2751	2.1	541	42	1720	6240	3.6	202	12	1031	2216	2.1	270	26

The following table gives a comparison of the inspections of the teeth of school children of the pre-war years, 1910 to 1914 with the inspections in 1919 and for the first three months of 1920.

YEARS.	Age 5.		Age 12 or 13.	
	No. of Carious Teeth per Child.	Percentage free from Caries.	No. of Carious Teeth per Child.	Percentage free from Caries.
1910—1914	6.4	5.0	4.6	2.9
1919 (last three months) ..	2.1	42.0	2.1	26.0
1920 (first three months) ..	1.9	48.0	2.1	28.3

The enormous reduction in caries in the post-war period compared with the pre-war period shown in these figures is most striking and if confirmed by subsequent investigations will prove to be of surpassing importance not only on account of the improvement already brought about, but perhaps even more on account of the light that it will throw upon the true methods of prevention.

The post-war inspections were made by no less than 8 different medical inspectors. The percentages of decay found by each inspector correspond fairly closely (see above). They are confirmed by the examination of the dentists at the ages 6, 7, and 8. These examinations are made with a probe and mirror, and one would expect the percentages to be higher than those of the medical inspectors.

In the following table the results of the inspections by the medical inspectors and dentists are put side by side and it will be seen that there is a general correspondence. The increase of caries from 5 to 6 years being 24%, from 6 to 7 years 23%, and from 7 to 8 years 12%.

AVERAGE NUMBER OF DECAYED TEETH PER CHILD.

Age.	Examined by Medical Inspectors.	Examined by Dentists.			Examined by Medical Inspectors.	
	5	6	7	8	8	13
1919 (last three months) ..	2.1	2.6	3.2	3.6	3.6	2.1
1920 (first three months) ..	1.9	..	..	..	..	2.1

If the figures can be accepted as representing facts, the most striking fact brought out by them is that the children free from caries at the age of 5 have increased from 5% before the war to 44.4% after the war.

Granted the improvement, what can it be due to? The only causes that suggest themselves are :—

- (1) Alterations of food due to war restrictions.
- (2) The teaching campaign that has been conducted in this County for the last 10 years through the schools, but more particularly during the last 5 years through the health visitors.

The modification of food due to war restrictions and increased prices likely to affect dental caries were :—

Sugar.—Price rose from 2½d. in July 1914, on the outbreak of war, to 6d. per lb. Since then it has varied from 7d. to 8d. per lb., and has recently risen to 10½d. Manufacturers were cut down to 50 per cent. for confectionery, sweets and jam. Amount of sugar consumed for all purposes before the war was 98 lbs. per head per annum ; through the war the consumption has been halved.

Bread.—Offal was added to the flour. Pre-war extraction of grain about 68 per cent., rose to 80 per cent. in 1917 and continued at about this figure or rather less to the present time ; sale of new bread prohibited ; crusts eaten, not thrown away.

Milk.—Rapid rise in price and greatly diminished consumption.

What are the possibilities of error?

In examinations of this kind made at different times, and by different inspectors, the possibility that the personal factor may have had a disturbing influence upon the results has always to be borne in mind. This will be dealt with shortly. Apart from the personal factor, there seems to be no room for any serious error, although there are slight differences in the bases upon which the pre and post-war figures are calculated, *e.g.* (1) the pre-war figures contain a few children age 6, (2) the statistics for the Borough of Wenlock are included in the post-war but not in the pre-war figures ; (3) a few teeth amongst the post-war children that had been filled have been counted as sound. These slight discrepancies are however absolutely negligible.

The personal factor is always a difficult one. The pre-war inspections were made by three medical inspectors and were conducted over a considerable number of years. Speaking generally the percentages of decay found by the different inspectors correspond fairly closely. The pre-war figures may be considered as accurate as can be obtained without the use of a probe and mirror, and it is possible the inspections were made with somewhat greater strictness than the post-war inspections.

As previously pointed out the post-war inspections were made by eight medical inspectors. The results correspond fairly closely and are confirmed by the dentists' inspections.

It will be noted that the figures show the greatest improvement at the age of 5. This is what might be expected as these children's teeth have never been exposed to pre-war conditions. It has always been my contention, following on the principles laid down by Dr. Sim Wallace, that if we could impose favourable conditions of diet we might in a single generation get back to the comparative freedom of caries of one hundred or one hundred and fifty years ago. The figures quoted seem to give support to this contention. Although the improvement may seem almost too good to be true, it must be remembered that the war conditions have had their full effect upon the 5 year old children—*i.e.*, if continued for 50 years their effect would be no greater.

The propaganda work for the prevention of dental caries will receive an added stimulus from the apparent great improvement during the war and it is hoped that it will be carried on particularly by the health visitors with greatly increased interest and energy. The details of this work have been given in previous reports, but the simple rules adopted may be re-stated with advantage.

Perhaps the most important rule is not to drink at meal times and not to eat between meals, particularly "sweets" or soft starchy foods.

Particular care should be taken that no "sweets," milk or soft starchy food should be taken last thing at night.

A meal should always be finished with a cleansing food, such as fruit, or raw vegetables, *e.g.*, apples, celery, lettuce or radishes.

A considerable amount of the food at every meal should be given in a form requiring vigorous mastication. This type of feeding should begin as soon as an infant is weaned.

TUBERCULOSIS.

Cases of phthisis amongst school children during the year were discovered in one of two ways: either in the examination of children referred by the teachers and nurses or picked out by the Medical Inspectors; or in the examination of children belonging to phthisis houses, all of whom are systematically examined by the Medical Inspectors.

Examination by the Medical Inspectors.

Children belonging to phthisis houses	Not yet examined.	No physical signs.	Suspected.	Diagnosed.
463	210	199	50	4
			54	

The 54 cases together with 102 others picked out by the medical inspectors, teachers, nurses, etc., were referred to the Tuberculosis Officers.

Examination by the Tuberculosis Officers.

No. of Children.	Not yet examined.	No physical signs.	Diagnosed as phthisis.	Suspicious of Phthisis.
156	53	72	19	12

The examination of school children by the Tuberculosis Officers is considerably behind hand. A very great deal of time is wasted by the Tuberculosis Officers visiting isolated houses to examine these children, but in the near future more of this work will be done at the Clinics.

DISEASES OF HEART AND RHEUMATISM.—The following remarks are repeated from last year's report. The adverse conditions referred to, still require attention.

Enlarged and septic tonsils, rheumatism and heart disease are very closely associated. It is probable that the organism responsible for rheumatism and heart disease usually gains access to the body through the tonsils, and that enlarged and diseased tonsils are a breeding ground for

these germs which may gain access to the blood when the body is subjected to any depressing condition. Amongst such depressing conditions in school children, the most common and most injurious is sitting in wet boots and wet clothes. A similar low condition of the body is probably brought about by sitting for considerable periods in schoolrooms at a very low temperature. The lack of ventilation of the schoolroom and of the sleeping room at home are probably important factors in bringing about the condition of throats favourable to the growth of the harmful organisms.

It follows from these remarks that for healthy school conditions one must have provision for drying clothes, for the substitution of dry slippers for wet boots, and for the adequate warming and ventilation of the schoolrooms. Many of the schools are very inadequately warmed, and I am confident that much ill-health is in consequence produced, particularly amongst the ill-fed and insufficiently clothed children. In such schools an attempt is always made by closing all the windows, to minimise the discomfort produced by insufficient heating.

The following pamphlet has been issued for the guidance of teachers :—

County of Salop.

RHEUMATISM IN SCHOOL CHILDREN.

Rheumatism in children is easily overlooked, and even slight attacks if not carefully treated may produce serious and permanent damage to the heart.

It is most important that rheumatism should be recognised in its early stages, and any child who has suffered from suspicious symptoms should be brought to the notice of the Medical Inspector.

Apart from an attack of rheumatic fever the symptoms that suggest that a child is suffering from rheumatism are :—

- (1) " Growing pains "—especially pains in the hamstrings.
- (2) Repeated attacks of sore throat, with enlarged and unhealthy tonsils.
- (3) St. Vitus's Dance or attacks of irritability, twitching of face or fingers, or clumsiness in children not usually troubled in these ways.

PRECAUTIONS that should be taken in cases of rheumatism or suspected rheumatism.

If the child is actually suffering from feverishness and pains he should be kept in bed and the doctor sent for.

If the heart becomes affected, a prolonged period of rest is necessary before anything but the mildest exercise is allowed.

Rheumatic children require special care in many ways. They need warm clothing and good boots. The arms and the legs as well as the body should be protected. Woollen under-clothing should be worn next the skin summer and winter.

They should never be allowed to sit in damp clothes or boots. It is also very important that they should live in dry houses and in a dry neighbourhood.

Underfeeding is very harmful to them. Milk and green vegetables are particularly good.

Enlarged tonsils should have immediate medical attention. Enlarged and diseased tonsils are often a reservoir of poison continually infecting the system.

JAMES WHEATLEY, M.D.,
County Medical Officer of Health,
and School Medical Officer.

*County Buildings,
Shrewsbury, May, 1919.*

GOITRE.—(ENLARGEMENT OF THE THYROID GLAND.)—Investigations are showing the vital importance of the ductless glands on the growth and health of the individual. The fatal effect upon the body of destruction of the thyroid gland has long been known and the effect of over-activity in producing disease and disturbance of function is clearly established. What is not so clear is the importance of the smaller enlargements of the thyroid and whether these can in any circumstances be considered physiological.

The opinion is very commonly held that enlargement of the thyroid gland has become much more general particularly in adolescent girls during the war but there are no reliable figures to prove or disprove this. Unfortunately figures relating to elementary school children are not very satisfactory as it is during the adolescent period that goitre is so liable to develop.

It has been conclusively proved that pollution of water is one of the chief causes of goitre, but it has not been proved that this or a similar infection is the only cause.

Careful school records may prove to be of great use in solving some of the problems connected with the enlargement and derangement of the thyroid gland.

RINGWORM.—Of the children examined by the Medical Inspectors 77 were found to be suffering from ringworm of the scalp.

In addition, 227 cases have been notified by the teachers. These were not usually based on medical opinion.

Examination of hairs was made by the Medical Inspectors in 203 cases—103 positive, 93 negative and 7 doubtful.

Hairs were submitted to Birmingham University, with 43 positive results, and 56 negative results.

When authorised by the School Medical Officer, children suffering from ringworm are now admitted to school, if the parent undertakes to carry out certain stringent precautions. It is also an essential condition of admission that the teacher shall undertake to see that the precautions are carried out. Thirty-six children attended school under these conditions.

It is not anticipated that this procedure will increase the spread of ringworm in the schools, and in many instances it will certainly bring about a better treatment of the cases.

No scheme of treatment can be considered at all adequate unless facilities for X-ray treatment are provided. Proposals for this will be included in the complete scheme of medical treatment to be submitted.

VERMINOUS HEADS.—The condition of the children's heads is still far from satisfactory, and it appears as if more thorough work will have to be undertaken.

The instructions given to the school nurses are to examine the heads of the children each term, that is three times a year, and to follow up the verminous children so as to get them clean before the end of the term. The inspection in the following term is to be begun *de novo*. So far as the returns show, there appear to have been 727 primary inspections and 922 following up inspections. At the primary inspections 60,955 children were examined and 7,330 were found verminous, or a percentage of 12.0.

These figures compare with 56,214 children examined in 1918, of whom 6,666 or 11. per cent. were verminous.

The following figures show the results of the examination of heads by school nurses. It must be remembered that on the second and subsequent inspections only those found verminous or absent at previous inspections are examined.

First Inspection.—Number examined 60,955. Verminous 7,330.

Subsequent Inspections.

		2nd inspection.	3rd inspection.	4th inspection.	5th inspection.	6th inspection.
Verminous	..	3810	2166	1020	458	217
Absent	.. ..	539	321	180	88	36

In interpreting these figures it must be borne in mind that in some schools a third inspection was not made, and in many there was no fourth or fifth inspection, so that the apparent decrease of verminous conditions is greater than the real decrease.

The number of children absent at inspections again showed a considerable reduction.

Forty-four children have been reported for prosecution under the Bye Laws on account of verminous condition.

Thirty-five cases were heard before the Magistrates at Wellington, Newport and Shifnal, and fines were imposed in all cases ranging from 4/- to 20/-.

Proceedings were not instituted by the Local Attendance Committee in 9 cases—on account of illness of mother, or removal out of district.

TABLE IV.—TREATMENT OF DEFECTS OF CHILDREN DURING 1919.

CONDITION.	No. of defects found for which Treatment was considered necessary.			No. of defects for which no report is available.	No. of defects treated.	Result of Treatment.				Doctor consulted, but no treatment advised.	No. of defects not treated.	Percentage of defects treated.
	From previous year	New.	Total.			Re-medied.	Improved.	Unchanged.	Unknown.			
Clothing ..	..	..	..	..	..	..	..	..	..	..	..	..
Footgear ..	..	..	..	..	..	..	..	..	..	..	..	..
Cleanliness of Head ..	..	1	1	1	..	..	..	..	..	..	..	..
Cleanliness of Body ..	..	1	1	..	..	..	..	..	..	..	..	..
Nutrition ..	..	4	4	2	2	..	1	1	..	..	1	0
Nose and Throat ..	602	582	1184	380	422	308	26	6	82	42	340	50.0
External Eye Disease ..	19	44	63	22	36	16	12	..	8	1	4	35.6
Ear Disease ..	54	59	113	25	77	24	42	2	9	..	11	57.1
Teeth ..	180	704	884	392	250	203	38	..	9	3	239	68.1
Heart and Circulation ..	36	49	85	22	51	4	34	1	12	2	10	28.3
Lungs ..	92	169	261	51	132	4	52	3	73	73	5	60.0
Nervous System ..	11	13	24	7	17	..	6	8	3	..	..	50.6
Skin ..	163	151	314	50	260	197	45	8	10	..	4	70.8
Rickets ..	..	..	..	..	..	..	..	..	..	..	..	82.8
Deformities ..	57	50	107	22	64	3	34	1	26	3	18	59.8
Tuberculosis-Non-pulmonary ..	16	24	40	8	28	3	12	1	12	..	4	70.0
Speech ..	1	1	2	2	..	..	..	..	..	..	..	0
Mental Condition ..	14	3	17	5	6	..	2	3	1	..	6	35.3
Vision and Squint ..	1018	878	1896	524	*871	219	411	51	190	64	437	45.9
Hearing ..	20	22	42	16	21	3	9	4	5	..	5	50.0
Miscellaneous..	69	157	226	68	109	25	62	3	19	6	43	48.2
Total ..	2352	2912	5264	1597	2346	1009	786	92	459	194	1127	44.5

*759 of these have glasses.

TABLE V.—INSPECTION, TREATMENT, &c., OF CHILDREN DURING 1919.

(1)	The total number of children medically inspected	13816
(2)	The number of children in (1) suffering from defects (other than uncleanness or defective clothing or footgear) who require to be kept under observation (but not referred for treatment)	2113
(3)	The number of children in (1) who were referred for treatment (excluding uncleanness, defective clothing, etc.) ..	3157
(4)	The number of children in (3) who received treatment for one or more defects (excluding uncleanness, defective clothing, etc.)	2191

FACILITIES FOR TREATMENT PROVIDED BY THE COUNTY COUNCIL.

At Hospitals—

- (1) For Eye, Ear, and Throat Defects—letters of recommendation provided for :—
 Eye, Ear, and Throat Hospital, Shrewsbury.
 Birmingham and Midland Eye Hospital, Birmingham.
 North Staffordshire Infirmary, Stoke-on-Trent.

(2) For Deformities—

At Baschurch Surgical Home—patients paid for under the tuberculosis scheme and the scheme for the medical treatment of school children.

At Clinics—

Eye Clinic at Oswestry—1/- paid by parents towards cost in each case.
 Arrangements with Specialists to Visit Centres.
 Clinics for minor ailments at Oswestry and Oakengates.

There are also facilities at Broseley Hospital in connection with the Lady Forester Trust for treatment of defects of eyes, ears, throat and teeth.

DETAILS OF TREATMENT RECEIVED AT THE HOSPITALS AND CLINICS.

Treatment received at Eye, Ear and Throat Hospital for Shropshire and Wales, Shrewsbury, during the year, on Recommendations supplied by the County Council.—Two hundred and eighty letters of recommendation were supplied and 271 of them have been used.

The result of treatment, so far as re-inspection has gone, are very satisfactory.

Of the 271 children who have had treatment, 177 were for eye defects, 85 for throat defects, and 9 for ear defects.

EYE DEFECTS.—Sixty two of the 177 children have been re-inspected.

43 have obtained glasses with satisfactory results.

5 have obtained glasses but defects are unaltered.

7 glasses advised but not yet obtained.

4 glasses not considered necessary.

1 other treatment than glasses prescribed.

2 beyond treatment.

One hundred and fifteen children have not yet been re-inspected, but information shows that :—

90 have obtained glasses.

1 other treatment than glasses prescribed.

3 visited hospital but did not return for second examination.

2 operations performed.

15 no treatment advised.

4 result of visit not known.

THROAT AND NOSE DEFECTS.—Forty of the 85 children have been re-inspected. All these have been operated on with satisfactory results. Of the 45 not yet re-inspected, information shows that 40 have been operated on ; 3 have received other treatment ; 1 child refused operation, and one did not visit the hospital when sent for.

EAR DEFECTS.—The 9 cases have received treatment ; one case improved ; in 8 cases the results are unknown.

Treatment received at the North Staffordshire Infirmary, Stoke-on-Trent, during the year, on recommendations supplied by the County Council. Seventeen letters of recommendation were supplied and 16 of them have been used, 11 for eye defects and 5 for throat defects.

EYE DEFECTS.—Of the 11 children suffering from eye defects, one has been re-inspected :—

Glasses were obtained with satisfactory results.

10 of the children have not been re-inspected, but information shows that :—

8 have obtained glasses.

1 other treatment than glasses prescribed.

1 no treatment advised the vision having improved.

THROAT DEFECTS.—One of the 5 children has been re-inspected ; an operation was performed with satisfactory result. Of the 4 not re-inspected, information shows that they have all been operated on.

Treatment at Baschurch Surgical Home.—One hundred and nine children of school age belonging to the Education County were treated during the year. The children were treated for the following conditions :—

Tuberculous Bones and Joints.

Rickets.

Deformities from Poliomyelitis.

33
Scoliosis.

5
Other Deformities.

28
Other Diseases.

6

21

16

Treatment at Oswestry Eye Centre.—Forty nine cases were treated up to the end of the year. Twenty have been re-inspected and all are wearing glasses. The vision has improved in 17 cases and is unaltered in three cases.

Of the 29 cases not yet re-inspected information shows that in 21 cases glasses have been obtained. Glasses have been ordered from an optician but not yet supplied in six cases.

Dr. Anderson visited Whitchurch on four occasions from October to December. The attendance of 15 children was arranged at each visit. Fifty-nine children were examined and glasses were prescribed in 54 cases. The glasses have been obtained in 50 cases.

Glasses were not prescribed for three children, other treatment at the Salop Hospital was advised in one case, and prescription of glasses was left over until next visit in the remaining case.

Clinics for Minor Ailments.—Clinics were open at Oswestry and Oakengates throughout the year. The following table shows the work done at these clinics :—

OSWESTRY CLINIC.

Defects or Disease.	No. of cases.	No. of attendances.	Result of Treatment.		
			Remedied.	Improved.	Unaltered.
Skin :—					
Ringworm—head	23	300	10	11	2
Ringworm—body	7	18	7	..	..
Scabies	7	25	7	..	..
Impetigo	36	96	33	3	..
Minor Injuries	9	24	9	..	..
Other Skin Disease .. ..	..	..	..	..	..
Ear Disease	19	96	No discharge of ears (9 cases)	10	..
Eye Disease (External and other)	6	8	2	4	..
Miscellaneous .. ..	..	..	..	..	..
Verminous Condition	34	52	20	14	..
Other Conditions	6	24	2	4	..

OAKENGATES CLINIC.

Defects or Disease.	No. of cases.	No. of attendances.	Result of Treatment.		
			Remedied.	Improved.	Unaltered.
Skin :—					
Ringworm—head	31	262	25	6	..
Ringworm—body	7	11	7	..	..
Scabies	7	9	7	..	..
Impetigo	19	21	19	..	..
Minor Injuries	6	12	6	..	..
Other Skin Disease	3	3	3	..	..
Ear Disease	6	57	3	2	1
Eye Disease (External and other)	6	8	5	1	..
Miscellaneous	9	12	9	..	..
Verminous Condition	10	12	10	..	..
Other Conditions	16	14	6	10	..

The total attendance at Oswestry was 643 and at Oakengates 421.

Statement showing visits of nurses in following up cases to bring about treatment :—

	No. of cases.	No. not visited.	Total visits.
District Nurses	2451	204	4901
Two whole-time Nurses ..	1071	111	2785
Total ..	3522	315	7686

Action taken to detect and Prevent Infectious Diseases, including reference to action under Articles 45 (b), 53, (b) and 57 of the Code of 1912.

A description of the scheme of notification of infectious disease from schools and of the measures taken to prevent the spread of infectious disease was given on pages 44, 45, and 46 of the report for 1914. This scheme is still in force.

All notifications of cases of measles in the schools are sent on to the Measles Health Visitors who make these cases the basis for further inquiries, give advice to the parent with regard to isolation and nursing and see that a doctor is called in if necessary. This work is carried out in close co-operation with the Medical Officer of Health of the District.

All notifications of cases of infectious skin conditions are sent to the part-time or whole-time school nurses to deal with.

All cases of sore throat where there is diphtheria in a school are sent to the School Nurse for swabbing, unless a special investigation is made by the Assistant School Medical Officer and in addition a letter is sent to the parent advising a doctor and pointing out the danger. Wherever a school is closed on account of diphtheria special forms dealing with diphtheria are sent to the Head Teacher to distribute one to each household.

Whenever influenza is notified from a school, leaflets on the lines of that issued by the Ministry of Health are immediately forwarded to the school for distribution.

Under Article 53 (b), 394 children have been excluded from school for infectious disease and other conditions :—

61	on account of	impetigo.
118	„	ringworm of scalp.
26	„	ringworm of body.
55	„	scabies.
21	„	verminous conditions.
20	„	suspected phthisis.
42	„	diagnosed phthisis.
7	„	chicken-pox.
44	„	various causes.

School closure has been effected entirely under Article 45 by the School Medical Officer either on information obtained direct from the school, or on the advice of the District Medical Officer of Health. Under this Article, 295 schools were closed for the following reasons :— 27 for measles, 11 for whooping cough, 7 for scarlet fever, 6 for diphtheria, 6 for chicken-pox, 9 for mumps, 228 for influenza, and 1 for other causes.

REVIEW OF METHODS ADOPTED AND THE ADEQUACY OF SUCH METHODS FOR DEALING WITH
BLIND, DEAF, MENTALLY OR PHYSICALLY DEFECTIVE AND EPILEPTIC
CHILDREN UNDER THE ACTS OF 1893 AND 1899.

Examination of Mentally Defective, Epileptic, Blind and Deaf Children.

	Certified suitable for Special School on Form 302M, 39, D.E. or 40B.D.	Uneducable (notified to Local Control Authority).	To be kept under observation.
Mentally Defective ..	8	23	15
Epileptic	4	..	2
Blind	3	..	..
Blind and Deaf	1	..	..
Deaf	2	..	..

The number of children admitted to special schools during 1919 was—Blind 2, Deaf and Dumb 0, Epileptic 0, Mentally Defective 2, Physically Defective 94*—these cases were admitted to Baschurch Home for treatment and often for comparatively short periods only ; for details see page 17.

The total number of children in special schools in 1919 was—Blind 9, Deaf and Dumb 20, Epileptic 2, Mentally Defective 5, Physically Defective 109.

TEACHING OF HYGIENE, OPEN AIR SCHOOLS.

For the general remarks on these subjects reference must be made to the report for 1914.

OPEN AIR SCHOOLS.—An open air school is now provided in connection with the Shropshire Surgical Home, Baschurch. At this home cases of surgical tuberculosis and other deformities are treated. The cases of tuberculosis are paid for by the County Council under the tuberculosis scheme and other cases under the scheme for medical treatment of school children.

The following paragraphs are taken from the report for 1917 :—

Just before the war a plan for a new elementary school on the open air principle had been got out. It is hoped that after the war no other kind of school will be erected. The application of the principle of open air schools in general is infinitely more important than the provision of special open air schools. As stated in last year's report :—" Teachers should be encouraged to hold open air classes when the weather permits where there is a playground suitable for the purpose. A covered playing shed, or the shelter of a spreading tree will frequently provide all the protection that is required. The provision of a suitable shed in connection with the schools, where otherwise open air teaching is impossible, is worth consideration."

" It is most important, however that the ordinary schoolrooms should be so constructed that in suitable weather by throwing all the windows open they become practically open air classrooms. This is the important aim that should be constantly kept in view."

* This is the total number of children of school age admitted to Baschurch from the Education County in 1919, and includes some who were not sent by the Education Authority.

PHYSICAL TRAINING.

The conditions laid down for physical training and the provision for training of teachers was described fully in my Report for 1914. No progress has been made during the war and the physical training is probably not so efficient as it was in that year.

Efficient physical training by organised physical exercises and games is one of the three primary essentials for securing a physically fit nation. The other two are suitable and sufficient food and good housing and housing environment.

If we recognise that physical training really holds such an important place in the health of the nation, it is certainly worth while devising a scheme for carrying it out thoroughly.

The scheme for training the normal child should be linked up with our existing organisation for the treatment of deformities. A complete scheme should be developed on the following lines :

- (1) The first step should be the appointment of organisers of physical instruction, to instruct the school teachers, and to supervise the physical exercises in the schools. The instruction of the teachers would be partly through classes and partly by demonstrations at the schools.
- (2) The children requiring treatment in the form of special exercises, massage, electrical treatment or supports would be picked out by the organisers, by the teachers and by the Medical Inspectors and referred to the nearest orthopaedic centre. Orthopaedic centres have already been established at Shrewsbury, Ludlow, Craven Arms, Oswestry, Ellesmere, Market Drayton, Wellington, Oakengates, Ironbridge, Wem, Whitchurch, Bridgnorth and Cleobury Mortimer, and other centres are under consideration.

The orthopaedic centres deal also with children under school age and it is hoped that within a few years most of the cases of deformity will be treated before school age. There will, however, always be a number of deformities principally of a minor character arising during school life that will require treatment.

- (3) The Medical Inspectors should be in close touch with the orthopaedic centres so as to be cognisant of the treatment carried out, to know the possibilities of such treatment, and to keep a special watch over these children during their school life.

